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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/494,940	02/01/2000	Yoshihiro Hara	024055-088	4143

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EXAMINER	
VILLECCO, JOHN M	
ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/494,940	HARA ET AL.	
	Examiner	Art Unit	
	John M. Villecco	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4,5,18-20 and 28-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *4,5 and 28-30* is/are allowed.

6)☒ Claim(s) *18-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 February 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 5, 2005 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 19 and 20 have been considered but are moot in view of the new ground(s) of rejection. Please see the new grounds of rejection presented on the following pages.

3. In response to applicant's argument that the examiner has combined an excessive number of references, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

4. Additionally, applicant has amended the claim to more clearly try to distinguish applicant's invention over the prior art of record. Furthermore, on page 9, last paragraph of the applicant's response filed on April 5, 2005, applicant has argued that Nakagawa fails to disclose that images that are to be subsequently composited are compressed and temporarily stored before the compositing operation. However, as mentioned in the final rejection mailed on October 6,

2004, Kodama teaches that the images to be composited are temporarily stored before the compositing operation is carried out. As shown in paragraphs 0014, 0015, 0035 and 0036, Kodama teaches that after a photographing operation is performed each image is stored in the memory means (5). Particularly, paragraph 0036 teaches that the accumulation memory will store the two or more images in the RAM (14) and then perform gap detection on those captured images. Then, the blurring detection means (6) and blurring amendment means (7) operate to compound the optimal image, using the RAM (14) and CPU (11) as the means for carrying this operation out. So based on the newly received translation of the Kodama reference, it appears that the use of Ohta may have been unnecessary in the previous rejection and therefore, will not be used in this rejection. Additionally, Nakagawa was used merely to show that it is well known in the art to compress images being stored to a memory. Since the Kodama reference is concerned with the storage of images to a memory, it is deemed by the examiner that the teaching of Nakagawa would have been looked to if one where trying to conserve the amount of memory used in the Kodama reference.

5. Additionally, applicant argues that Nakagawa fails to disclose the formation of a composite image by reading a plurality of images from the memory and further processing them to form the composite. As mentioned previously, Nakagawa was used merely to show that it is well known in the art to compress images being stored to a memory. Since the Kodama reference is concerned with the storage of images to a memory, it is deemed by the examiner that the teaching of Nakagawa would have been looked to if one where trying to conserve the amount of memory used in the Kodama reference. Kodama is used to show the compositing of several images which have been temporarily stored in the RAM memory.

6. For the previously stated reasons, the rejections of claims 18-20 will be maintained, with the use of Ohta in the rejection of claim 18 omitted and new rejections presented for claims 19 and 20.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. **Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamamura et al. (U.S. Publ. No. 2003/0133021) in view of Kodama (Japanese Publ. No. 09-261526 A) and further in view of Nakagawa (U.S. Patent No. 5,335,016).**

Regarding ***claim 18***, Hamamura discloses a CCD (103) for taking an image, a luminance sensor (12) for sensing the luminance of the object, and an underexposure unit (212) for judging whether a proper exposure time is longer than a predetermined exposure time. The exposure time setting unit (211) sets an exposure time of the CCD. When the underexposure determining unit determines that the suitable exposure time is greater than a hand vibration time limit, the camera adjusts the gain to accommodate. See paragraphs 29-31.

Hamamura, however, fails to disclose that instead of changing the gain after the exposure exceeds a hand vibration time limit, a plurality of images are taken to accommodate for the hand shake. Kodama, on the other hand discloses that it is well known in the art to take multiple exposures of the same scene based on the amount of handshake and whether or not the calculated

exposure time exceeds a handshake time limit. It is well known that increasing the gain of a system can increase the noise in the image. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to capture multiple images and combine them to form a high quality image instead of increasing the gain so that an image that is free of increased noise is produced. See paragraphs 13 and 17-26. Additionally, Kodama teaches that the plurality of image data of the same object are composited for forming a single image. See paragraph 15. Furthermore, Kodama discloses the ability to determine the amount of blurring and then aligning each of the images after determining how much the images are offset from each other. The process of determining the offset of the images before combining is interpreted to be data correction. See Figure 4. Kodama teaches that the images to be composited are temporarily stored before the compositing operation is carried out. As shown in paragraphs 0014, 0015, 0035 and 0036, Kodama teaches that after a photographing operation is performed each image is stored in the memory means (5). Particularly, paragraph 0036 teaches that the accumulation memory will store the two or more images in the RAM (14) and then perform gap detection on those captured images. Thus, all of the images are captured before being processed by the CPU (11). Then, the blurring detection means (6) and blurring amendment means (7) operate to compound the optimal image, using the RAM (14) and CPU (11) as the means for carrying this operation out.

Finally, none of the aforementioned references discloses that the images are compressed before storing them in memory. Nakagawa, on the other hand, discloses that it is well known in the art to compress images before storing them in memory. This allows more efficient use of the memory. Therefore, it would have been obvious to one of ordinary skill in the art to compress

the images before storing them so that memory is conserved. See column 17, line 67 to column 18, line 6. Additionally, Nakagawa discloses that it is well known in the art to set a compression ratio based on the number of images set. This allows more efficient use of the memory. Therefore, it would have been obvious to one of ordinary skill in the art to adjust the compression ratio of Kodama based on the number of images taken so that the memory usage is optimized. See column 17, line 67 to column 18, line 6.

9. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (U.S. Patent No. 5,517,246).

10. Regarding ***claim 19***, Suzuki discloses an image processing system capable of automatically selecting an appropriate image compression technique based upon a condition at the time of photographing. More specifically, Suzuki discloses recorder (7) acting as the memory region for storing both a reference (first) image and the compressed images from compression procedure number 2. See column 4, lines 9-42. The first image is considered to be the standard image and the differential images are interpreted to be the compressed images. Additionally, the compressed images can be temporarily recorded in the recorder (7) before being outputted to the destination (col. 6, lines 23-27). Suzuki teaches that based on a detected motion the method of compression is selected. Thus, the motion is interpreted to be the condition when the image data are taken.

Suzuki, however, fails to explicitly disclose that the system is a camera system. Although Suzuki teaches that the compression is used for compressing images (col. 3, line 52), Suzuki does not disclose that those images come from a camera. Official Notice is taken as to

the fact that it is well known in the art to obtain images from a camera. Cameras serve as a means of captured a real-time scene for later review and it is well known that cameras are capable of providing images. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the image processing system of Suzuki to receive the images from a camera.

11. As for ***claim 20***, Suzuki discloses that in the differential compression mode, the object is in motion. Therefore, the object in motion is read out from a region from which image data are read out. In other words, the condition of the region being readout is the motion of the image itself.

Allowable Subject Matter

12. Claims 4, 5, 28, 29, and 30 are allowed.

13. The following is an examiner's statement of reasons for allowance:

Regarding ***claims 4 and 5***, the primary reason for allowance is that the prior art fails to teach or reasonably suggest the method of calculating the control exposure time and the number of image taking operations.

As for ***claim 28***, the primary reason for allowance is that the prior art fails to teach or reasonably suggest that the correcting of the image shake around the two axes perpendicular to the optical axis are executed by a software process and the rotating of the image data around the optical axis is performed by a hardware process.

With regard to ***claim 29***, the primary reason for allowance is that the prior art fails to teach or reasonably suggest that the rotation shakes are corrected by affine conversion at the same time.

Regarding ***claim 30***, the primary reason for allowance is that the prior art fails to teach or reasonably suggest that that the region from which the image data are read out is gradually enlarged corresponding to the increase of the number of image taking operations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (571) 272-7319. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272-7308. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John M. Villecco
June 15, 2005

WENDY R. GARBER
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